

CLAIMS

1. A detection system (1), comprising:
an optical sensor (3);
a radar device (2) and
a signal processor (4) communicatively connected with the optical sensor
5 and the radar device, the signal processor comprising:
a first detector (41, 410-413) for detecting a first object on the basis of a first
signal coming from the optical sensor and determining at least one first
property of the first object;
a second detector (42, 420-421) for detecting a second object on the basis of a
10 second signal coming from the radar device and determining at least one
second property of that second object, and
a signaling unit (43) for producing a signal if the at least one first property
and the at least one second property satisfy a predetermined condition.
- 15 2. A detection system (1) according to claim 1, wherein signaling means
produce a signal if the first object and the second object correspond to each
other to a sufficient extent.
3. A detection system (1) according to claim 1 or 2, wherein the signal
20 processor (4) comprises:
first distance determining means for determining from the first signal a first
distance between the first object and the optical sensor;
second distance determining means for determining from the second signal
a second distance between the second object and the radar device, and
25 the signaling means are arranged to produce a signal if the difference
between the first and second distances satisfies a predetermined condition.

4. A detection system (1) according to claim 3, wherein the signal processor (4) comprises:
angle calculating means (411, 412) for determining from the first signal the distance from the first object to the optical sensor (3) with the aid of an
5 elevation angle and an azimuth angle of the detected object relative to the optical sensor (3).
5. A detection system (1) according to claim 3 or 4, wherein the signal processor (4) further comprises:
10 distance signaling means for producing a distance signal if the first and second distances correspond to each other to at least a predetermined extent, which distance signal represents the distance determined from the second signal.
- 15 6. A detection system (1) according to any one of the preceding claims, wherein signal processor (4) comprises:
means for producing a signal if the first object and the second object correspond to each other to at least a predetermined extent, and the second object, on the basis of information derived from the second signal, is situated
20 on the surface of the earth.
7. A detection system (1) according to any one of the preceding claims, wherein
the optical sensor (3) has an optical field of regard and
25 the radar device (2) has a radar field of regard, which fields of regard overlap each other wholly or partly.
8. A detection system (1) according to claim 7, wherein the viewing direction of the optical sensor (3) and the viewing direction of the radar
30 device (2) are substantially parallel.

9. A detection system (1) according to any one of the preceding claims, wherein the optical sensor (3) and the radar device (2) are arranged in mutual proximity.

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10. A detection system (1) according to claim 9, wherein the radar device (2) comprises a dish antenna (22) with a feedhorn (21), and the optical sensor (3) is mounted on or near the feedhorn.

10 11. A detection system (1) according to any one of the preceding claims, wherein the optical sensor (3) and the radar device (2) are pivotably arranged and wherein driving means are provided for causing the optical sensor and the radar device to pivot or rotate.

15 12. A detection system (1) according to any one of the preceding claims, wherein in the signal path between the optical sensor (3) and the signal processor (4) and in the signal path between the radar device (2) and the signal processor, substantially the same time delay is present.

20 13. A detection system (1) according to any one of the preceding claims, wherein the optical sensor comprises a camera (3).

14. A method for detecting objects, comprising:
generating (100) a sensor signal with an optical sensor,
25 detecting (101) a first object on the basis of the sensor signal,
generating (200) a radar signal,
detecting (201) a second object on the basis of the radar signal,
producing (300) a detection signal if both on the basis of the sensor signal
and on the basis of the radar signal the same object is detected.

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15. A method according to claim 14, wherein producing (300) a detection signal comprises:

producing a detection signal if the first object and the second object correspond to each other at least to a predetermined extent.

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16. A method according to claim 14 or 15, wherein detecting (101) a first object comprises:

determining from the first signal a distance between the first object and the optical sensor;

10 and wherein detecting (201) a second object comprises:

determining from the second signal a distance between the second object and the radar device, and

wherein producing (300) a detection signal comprises:

15 producing a distance signal if the difference between the two distances satisfies a predetermined condition.

17. A method according to claim 16, wherein determining from the first signal a distance between the first object and the optical sensor comprises:

20 determining from the first signal the distance from the first object to the optical sensor (3) with the aid of an elevation angle and an azimuth angle of the detected object relative to the optical sensor (3).

18. A method according to claim 16 or 17, wherein producing (300) a detection signal comprises:

25 producing a distance signal if the two distances correspond to each other at least to a predetermined extent, which distance signal represents the distance determined from the second signal.

19. A method according to any one of claims 14-18, wherein producing

30 (300) a detection signal comprises:

producing a detection signal if the first object and the second object correspond to each other at least to a predetermined extent and the second object, on the basis of information derived from the second signal, is situated on the surface of the earth.

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20. A method according to any one of claims 14-19, wherein the optical sensor (3) has an optical field of regard and the radar device (2) has a radar field of regard, which fields of regard overlap each other wholly or largely.

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21. A method according to claim 20, wherein the viewing direction of the optical sensor (3) and the viewing direction of the radar device (2) are held substantially parallel.

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22. A method according to any one of claims 14-21, wherein the optical sensor (3) and the radar device (2) are used whilst arranged in mutual proximity.

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23. A method according to claim 22, wherein the radar device (2) comprises a dish antenna (22) with a feedhorn (21), and the optical sensor (3) is arranged on or near the feedhorn.

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24. A method according to any one of claims 14-23, wherein the optical sensor (3) and the radar device (2) are pivoted.

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25. A method according to any one of claims 14-24, wherein between generating (100) a sensor signal and detecting (101) a first object, and between generating (200) a radar signal and detecting (201) a second object, the same period of time elapses.

26. A method according to any one of claims 14-25, wherein an optical sensor is used which comprises a camera (3).

27. A computer program comprising program code for performing one or
5 more steps of a method according to any one of claims 14-26 when the program has been loaded into a programmable device.

28. A data carrier provided with data representing a computer program according to claim 27.